

(29)

$$\int \tan(4x+2) dx$$

$$u = \cos(4x+2)$$

$$\int \frac{\sin(4x+2) dx}{\cos(4x+2)}$$

$$\frac{du}{dx} = -4 \sin(4x+2)$$

$$\frac{1}{4} \int \frac{\sin(4x+2) 4 dx}{\cos(4x+2)}$$

$$\frac{1}{4} \int \frac{-du}{u}$$

$$\frac{1}{4} \ln|u|$$

$$-\frac{1}{4} \ln|\cos(4x+2)| + C$$

(37)

$$\int \frac{\sin(2x+1)}{\cos^2(2x+1)} dx \quad \begin{array}{l} u = 2x+1 \\ du = 2dx \end{array}$$

$$\frac{1}{2} \int \frac{\sin(2x+1) 2dx}{\cos^2(2x+1)}$$

$$\frac{1}{2} \int \frac{\sin u du}{\cos^2 u} = \frac{1}{2} \sec u = \frac{1}{2} \sec(2x+1) + C$$

$$\frac{1}{2} \int \tan u \sec u$$

$$\textcircled{43} \int \frac{dx}{\cos 3x} = \int \tan 3x dx = \int \frac{\sin 3x}{\cos 3x} dx \quad \begin{array}{l} u = \cos 3x \\ du = -3 \sin 3x \end{array}$$

$$\frac{-1}{3} \int \frac{-3 \sin 3x}{\cos 3x} = \frac{-1}{3} \int \frac{du}{u}$$

$$= \frac{-1}{3} \ln|u| + C$$

$$= \frac{-1}{3} \ln|\cos 3x| + C$$

$$\frac{1}{3} \ln|\sec 3x| + C$$

HW

47-66 ($\frac{1}{2}$)